Environmental and Behavioral Uncertainty, Control Mechanism and Strategic Alliances

Fanding Ma
Shanghai University, Shanghai, China.

Abstract

Economic globalization is both an opportunity and a challenge for enterprises. In order to reduce the negative impact of economic globalization, enterprises with common goals want to deal with the crisis through alliances, but the results often backfire. Through research, this paper finds that the high failure rate and low performance of the alliance are influenced by the environmental uncertainty, the higher the environmental uncertainty, the lower the alliance performance. In addition, under the influence of behavioral uncertainty, the higher the behavioral uncertainty, the lower the alliance performance. Through further research, this paper finds that both contract mechanism and trust mechanism can control the negative effects of environment and behavior uncertainty on alliance performance. But when the uncertainty of environment and behavior is too high or too low, the contract mechanism not only can not play its original role, even can play the reverse effect. The regulation effect of trust mechanism is similar, except that when the uncertainty of behavior is very low, the inhibition effect of trust mechanism is not obvious, but it does not have adverse effect.

Keywords

Environmental Uncertainty; Behavioral Uncertainty; Control Mechanism; Alliance Performance.

1. Research background and research problems

1.1. Practical background

The current economic globalization has provided rare opportunities for enterprises to develop their own business, but at the same time, the competition has also become more intense. For some multinational enterprises, they are challenging competitors that have spread from home to the rest of the world. In addition, the rapid development of science and technology is also constantly forcing new products more technological and complex, which also present a lot of challenges to the operation of enterprises. Under such circumstances, if the enterprise still wants to achieve its strategic objectives only by means of its own resources, it will be difficult and probably lead to a certain gap between its ultimate strategic performance and objectives, which is named “strategic gap” by president J. Hopland of DEC Corporation of the United States and management scientist R. Nigeland. In order to make up for such a gap, to improve the competitiveness and strategic performance of enterprises, and to achieve the ultimate strategic goal, enterprises that have common goals begin to form alliances, volunteer to share or jointly develop new knowledge, products, services, technologies. However, academic Gerwin [16] says that while strategic alliances are considered to be a source of competitive advantage, there is growing evidence that the failure rate of alliances is high and that many of the firms that form alliances do not improve their performance, the uncertainty of environment and behavior are the two main reasons for this situation.

Based on the above situation, this paper raises the question: how does the uncertainty of environment and behavior cause the failure of the alliance relationship and affect the
performance of the alliance? In addition, how does the degree of uncertainty affect the performance of the alliance?

Although the performance of alliance enterprises will be deeply affected by environmental and behavioral uncertainties, alliance managers will actively respond to such problems. The main way is to control the uncertainty it faces through governance mechanisms. Liang Jianying [27] expressed support for this view. He believes that the advantage of control is that it can make more things predictable, thereby promoting the realization of common strategic goals. Sun Daojun [38] also believes the approach is effective. He said that the root cause of the increase in the failure rate of alliance performance is that the enterprises forming the alliance ignore the influence of control methods.

Therefore, this article then raises the following questions: how do enterprises forming alliances use control mechanisms to suppress the adverse effects of environmental uncertainty on alliance performance? What is the implementation effect of the control mechanism?

1.2. Theoretical background

Environmental uncertainty, behavioral uncertainty and control mechanisms have been studied by many scholars. Their research can provide a lot of valuable references and lay the foundation for this paper. Similarly, there are many domestic literature on corporate performance and environmental uncertainty, behavioral uncertainty and control mechanisms, but there are few literature on the performance of them and alliances. And most of the existing papers are to study a certain issue alone, this paper believes that these aspects are all causally connected, and the interaction between them is also worth exploring.

In addition, most of the existing literature on environmental uncertainty and control mechanism discusses the adjustment effect of environmental uncertainty, but there are few documents discussing the adjustment effect of control mechanism, and this paper provides new research ideas here. Finally, the current specific methods of control mechanisms are different, and there are various cut-in points. Based on the above reasons, this paper conducts the following research.

2. Research significance

2.1. Theoretical significance

This paper first studies the impact of environmental and behavioral uncertainty and its changes on alliance performance, and then studies the moderating role of control mechanisms in it. Previous literature studies always separately discussed environmental uncertainty, behavioral uncertainty, and the influence of control mechanisms on alliance performance. This article puts these factors into the same article for research, which can provide a new research perspective for related literature.

Through the research of this article, it is found that the complexity and variability of the environment and the uncertainty of behavior will negatively affect the performance of alliance enterprises, and the degree of influence will deepen as the uncertainty increases. After the implementation of contract control, the negative impact of the uncertainty of the environment and behavior on the performance of the alliance can be suppressed. After implementing trust control, the negative impact of environmental uncertainty on alliance performance has also been suppressed. Trust control can also suppress the negative impact of behavioral uncertainty on alliance performance, and this effect will be significant as the behavioral uncertainty increases; but when the behavioral uncertainty is low, the inhibitory effect is not obvious. Finally, this article also provides a theoretical basis for the failure of enterprise alliances.
2.2. Practical significance

Previous studies have shown that the failure rate of alliances is more than half [37], so how to reduce the high failure rate of alliances and make the alliance exert its due effect has become a problem that each enterprise wants to solve. This research helps enterprises analyze how environmental and behavioral uncertainties lay hidden dangers for the collapse of alliances and have a negative impact on alliance performance, which is conducive to the alliance's managers to "prescribe the right medicine" to concentrate limited resources to key areas when implementing control, so as to maximize the governance effect. In addition, this article also analyzes how different control mechanisms exert their governance effectiveness, and under what circumstances can they maximize their governance effectiveness. It is of practical significance to provide a reference for the managers of the alliance when to implement control and what kind of control to implement, which can be beneficial to increase the possibility of the alliance’s success and establish a long-term partnership for the alliance enterprises.

3. Literature References

3.1. Relevant literature research

3.1.1. Research on environmental uncertainty

Liu Yuerong [30] pointed out that the macro environment is one of the reasons that affect the performance of the alliance. Among them, encouraging economic policies will have a positive impact on the performance of the alliance, while political instability has caused environmental uncertainty, which will be completely different from the former influence. Zhang Yinghong [46], after combing many documents, summarized environmental uncertainty as dynamics and uncertainties, and analyzed its influence on the relationship between entrepreneurial strategy and performance when used as a moderating variable. She found that the dynamics of the environment has a regulating effect. After analyzing the relationship between business environmental uncertainty and managers’ perceptions, He Suchao, Huang Xu and Chen Qing [18] found that higher environmental uncertainty will accelerate the pace of environmental change, which in turn affects managers’ cognitive ability and decision-making ability, causing evaluation bias and further affect the correct formulation of strategies.

3.1.2. Research on behavioral uncertainty

Wang Lilei [39] believes that the uncertainty of behavior will lead to asymmetry of information and easily lead to transaction risks, make agents absolve themselves from responsibility and increase the possibility of alliance partners’ opportunistic behaviors. The uncertainty of behavior in this article is mainly manifested as opportunistic behavior. Han Jingjing [17] divided opportunism into four types: time stage, initiative, type of breach of contract, duration, and relationship risk. Through research, she found that no matter what type of opportunism it is, it is not conducive to cooperation between alliances and will reduce alliance performance. Zhang Jialing [44] put forward this view when discussing opportunism: although opportunism stems from selfishness, it is not unrelated to the promotion of many other conditions, such as the incompleteness of the contract and the uncertainty of the environment. The research of Zhang Jie [43] proves that opportunistic behavior will adversely affect information sharing and operational performance between partners. In addition, she found that changes in the environment would hinder enterprises’ recognition of opportunism and the construction of good partnerships between enterprises, which have a significant negative impact on operational performance.

3.1.3. Definition and classification of control mechanisms

The more classic classification of control mechanisms is to divide them into formal control and social control [8]. Many scholars will further divide formal control into process (behavior)
control and result control when conducting research [11]. Result control is to measure and monitor the completion of tasks of alliance partners, and to set some rewards and punishments; process (behavior) control is to set some rules and standards, and to monitor and measure whether the behavior of alliance partners is out of bounds [19].

Social control is also called informal control or group control, and there are many different definitions of it in academia. Das and Teng [8] believe that social control is a mechanism based on people or society. It needs to reach consensus and complete control through some socialized behaviors, such as communication, information sharing, trust, dependence and cooperation. What Lee and Cavusgil [26] call social control is the behavior of partners in an alliance who interact to achieve control. Other scholars argue that while social control can not be expressed in written form as formal control, it requires specific and sustained social behavior [22], such as regular meetings [15], seminars, and mutual learning [3]. Zeng Xiangfei [46] believes that social control is mainly to control the behavior of partners in the alliance through cultural and ethical norms. If people want to understand social control well, they can use a symmetrical method to compare it with formal control.

When studying the case of IT outsourcing projects, Li Xiaoyan and Mao Jiye [31] pointed out that social control is composed of sectarian control and self-control. When Liu Min, Liu Shan, and Zhang Jinlong [29] explored risk, control, and information system performance, they also believe that self-control constitutes a part of social control, but the other part is value control. When Lv Tao and Nie Rui [32] studied the influence of social control on sales force performance and customer relationship quality, they proposed that social control consists of three parts: self-control, professional control and cultural control. Pan Fei and Gao Miaomiao [33] combed the literature on cross-organizational management control systems from the perspective of supply and demand, and believed that social control includes trust and partner selection. Zeng Xiangfei, Chen Lianghua, and Zu Yafei [46] found that social control has a distinctive feature in China, that is, based on interpersonal relationships, alliance enterprises with more relationship resources will be more effective in using social control.

### 3.1.4. Contract mechanism and trust mechanism

In the above two types of control, there are two different theoretical viewpoints that have produced insights on effective and efficient governance [36]. The first point of view emphasizes the importance of contracts and believes that contracts are effective and efficient governance mechanisms. The second view emphasizes the importance of trust in maintaining a coordinated alliance. [12]

Feng Hua and Li Junyi [14] compared contract to a medium and put forward the view that formal control can only work through contract. Yang Yulong, Pan Fei, and Zhang Chuan [42] believe that the laws and systems behind the contract can guarantee the smooth implementation of the original arrangements and plans. Zhang Ling [45] broadened the concept of contract, thinking that it not only includes contractual contracts, but also relationship contracts, because the dependence between enterprises will become stronger over time, which is more conducive to control. Fan Fengxia [13], when studying the contract mechanism and the performance of new enterprises, found that for new enterprises, the contract mechanism can only be effective in the early stage.

Zhang Chuan believes that the role of trust is to build a network of relationships, increase information flow, reduce uncertainty, and achieve better control. Dekker [10] emphasized that trust is a very important mechanism in social control. It can reduce opportunistic behaviors and even affect formal control by increasing the degree of trust among enterprises in the alliance. However, Patzelt and Shepherd [35] have different views. They believe that trust and social control are parallel concepts, rather than a control mechanism or control method in social control. The most important difference between trust and social control is that the former is an
expectation of partner behavior, while the latter is a mechanism that affects this behavior. In addition, they divide trust into capability trust and goodwill trust. Capability trust refers to the belief that partners do have sufficient resources and capabilities to meet the agreement of the alliance contract, and goodwill trust is the partner’s intention to assign these capabilities to the alliance, not opportunistic behaviors. Through research, they found that a high level of trust is not desirable, because it will increase the possibility of managers insisting on cooperating with under-performing alliances. Only under certain conditions, trust may bring some benefits to the company more or less.

3.2. Literature review

By reviewing and sorting out the literature, it can be found that environmental uncertainty not only has an adverse effect, but also has a moderating effect. This article only discusses the causes of its adverse effects and its impact on the performance of the alliance. In addition, the degree of environmental uncertainty is different, and the impact on enterprises is also different. The gap is that most of the current literature only studies the moderating effect of environmental uncertainty.

Different from environmental uncertainty, the impact of behavioral uncertainty is single and negative, but there are many and different classifications of behavioral uncertainty, which can be used as an entry point for future research.

From the current research, there is basically no difference in the division of formal control and social control, process (behavior) control, and outcome control. However, in terms of the classification of social control, different viewpoints are quite different. In the control mechanism, the contract mechanism and the trust mechanism are the hot spots of research, but there is no exact definition for the two. Among them, the issue of whether the trust mechanism belongs to social control is also controversial.

4. Theoretical analysis

4.1. Environmental uncertainty and alliance performance

Some scholars represented by Milliken [31] believe that environmental uncertainty means that managers cannot accurately know the state and extent of the external environment that the enterprise will face in the future. Boyd and Fulk [2] believe that this is caused by the complexity and variability of the external environment. Complexity refers to the variability of the environment, the uncertainty of competitors’ behavior, or the ability to influence corporate decisions [9]. Variability refers to the rate of change of factors such as customers, suppliers, and competitors [5]. These changes will reduce the quality of information obtained by alliance enterprises. However, not all the added information is valuable to alliance companies. It takes a lot of energy for managers to screen, identify, judge, and use valuable information, and there is also the possibility of misuse of invalid or wrong information, this will affect the analysis ability and planning level of alliance managers, and then affect their decision-making level, reducing the possibility of the realization of the alliance performance. In terms of time, Baum and Wally [1] believe that in an environment with a higher degree of
uncertainty, managers need to spend more time sifting through information, which may lead to miss opportunities or make delayed decisions. Therefore, the complexity and variability of the environment constitute the uncertainty of the environment, which reduces the performance of the enterprise alliance. And the higher the uncertainty of the environment, the greater the negative impact on the performance of the alliance.

4.2. Uncertainty of behavior and alliance performance

Williamson [40] pointed out that the uncertainty of behavior refers to the uncertainty caused by enterprises participating in the alliance because they do not disclose their strategy, conceal or provide false information, which is conducive to the possibility of gaining benefits from opportunism. As Palmerston said: "There are no eternal friends, only eternal interests." When opportunistic behavior sprouts, the relationship between alliance companies will appear cracks. Das and Teng [7] explained opportunistic behavior from the perspective of transaction cost economics (TCE), thinking that it refers to a type of consumer behavior, that is, economic actors (not the only ones) mainly take actions based on personal interests. If they can escape punishment or get more benefits than the other, they will ignore the interests of their partners. In the context of strategic alliances, alliance companies will more or less have potential or actual opportunistic behaviors, which have different causes and manifestations. For example, a partner refuses to provide key information or resources to the alliance for reasons of protecting the core assets and capabilities of the company; or another partner deploys immature technology or inexperienced managers to the alliance [21]. If all partners in the alliance do not contribute their best resources to the alliance out of selfishness, then the competitiveness of the alliance formed by them will be reduced, which is not conducive to achieving the common strategic goals and alliance performance of all enterprises.

It can be seen that the uncertainty of behavior is mainly reflected in opportunism. When the alliance enterprises are fighting separately, the competitiveness of the alliance decreases, the failure rate of the alliance increases and the performance of the alliance decreases. And the higher the degree of uncertainty of behavior, the greater the negative impact on alliance performance. Therefore, the managers of the alliance enterprises want to reduce the uncertainty of behavior through the governance mechanism, maintain the relationship between the Alliance Enterprises, improve the performance of the alliance, can they do as they wish?

4.3. Contract control, uncertainty of environment and behavior and alliance performance

According to the explanation of Liang Jianying [27] et al., contract control mainly refers to the agreement in written form between two or more parties in the alliance about their respective responsibilities and obligations in the future, and make a commitment that they will act on the agreement. The validity of this agreement is that it is legally binding, not only to protect each other's interests, but also to punish those who violate the agreement.

As mentioned earlier, the environment is complex and changeable, which makes it difficult for companies to make reasonable predictions about the future. But they can write emergency plans into the contract, such as what actions should be taken in the face of uncertain future environmental conditions. At the same time, communication terms can also be added to it to plan how to communicate under different environmental conditions. This clause is very important, because in an uncertain environment, an appropriate communication structure will help partners share information in a timely manner and quickly agree on countermeasures. And this kind of disciplined simultaneous activities can reduce conflicts between partners, make
them find the best course of action when they must adapt to new situations, and promote the realization of alliance performance [20].

But when the environmental uncertainty is very high, the disadvantages of contract control are more obvious. For example, a very high environmental uncertainty can lead to information overload [25], or reduce managers' familiarity with information [34]; and the bounded rationality of alliance managers also limits the number of contingencies they can explain in their contracts. When the external environment is extremely complex and changeable, managers may not have time to make good and quick decisions to deal with this situation, which hinders the realization of alliance performance. This does not mean that the effect of contract control is very well when the environmental uncertainty is very low. Because people tend not to pay attention to low-risk matters, the need to take unexpected factors into account in related contracts will also be reduced, and the costs originally used to formulate contracts will also be transferred.

The uncertainty of behavior is mainly manifested as opportunistic behavior, and contract control happens to inhibit it [3]. Although the possibility of gains from opportunistic behavior is very high, there is an obvious advantage of contract control, that is, if the partner fails to fulfill the agreement promise, the court can impose criminal responsibility [23], which increases cooperation the awe of the parties to the contract. In addition, when a partner who wants to engage in speculative behavior considers that the cost of punishment is much higher than the benefits of speculative behavior, the uncertainty of behavior will also be reduced. Therefore, contract control can reduce the uncertainty of the environment and behavior, improve the success rate of governance, and help achieve alliance performance.

But if the uncertainty of the partner’s behavior is very high, even beyond the controllable range of the contract, the actual governance will often fail. For example, if partners only join forces to learn advanced technology, then even if they need to pay a predictable price, they will not stop their opportunistic behavior, because they think it is worth it. Williamson [41] argues that it does not make sense from a cost perspective to draw up detailed contracts when the uncertainty of a partner’s behaviour is low and other partners are able to assess each other’s behaviour without much difficulty, because it could reduce the alliance’s performance. Therefore, the contract mechanism can restrain the negative influence of environment and behavior uncertainty on alliance performance, and the control effect is inverted U-shaped.

4.4. Trust, uncertainty of environment and behavior and alliance performance

Trust is the confidence of partners that each other will not harm the other's interests. Transaction cost theory believes that when trust exists, alliance partners can better resist environmental uncertainty and volatility. That is to say, when partners have confidence in each other's capabilities and the stable relationship of the alliance, they are more likely to invest in their alliance and overcome any difficulties. At this time, the bond of trust helps to ensure a more active alliance Result. In addition, trust can also increase the alliance’s flexibility in dealing with uncertain environments and improve the level of communication between partners. This is conducive to the exchange, update, and increase of the information flow among the partners within the alliance, and this method has been proven to have a positive impact on the performance of the alliance.

However, trust can also cause undesirable phenomena. For example, partners only focus on completing their own work, but do not actively communicate with each other. In this way, the performance of the alliance may be affected due to cognitive limitations. This disadvantage is particularly evident in high levels of environmental uncertainty. In addition, when trust and environmental uncertainty are both high, the pressure to respond quickly to the environment can easily prompt the partner not to verify the accuracy of the environmental-related information held by the other party, thereby affecting the performance of the alliance. When
the degree of uncertainty in the environment is low, it is impossible to arouse the partners’ sensitivity to changes. In addition, their full trust in each other makes it more difficult for them to respond appropriately and prevents them from exercising the benefits of a trust mechanism. Trust enables partners to still choose to trust the other side when faced with the uncertainty of behavior, even if the other side has the opportunity to engage in speculative behavior with high returns and low risks. The benefit of the trust mechanism is that it reduces mutual fear of opportunism, increases the frequency of communication, the disclosure of information, the sharing of resources and the establishment of long-term cooperative relationships. The higher the uncertainty of the behavior, the better the effect of the trust mechanism. Conversely, in the case of low behavioral uncertainty, the trust mechanism will have a weaker impact on alliance performance.

It can be seen that the trust mechanism can suppress the negative impact of environmental uncertainty on alliance performance, and the suppression effect is inverted U-shaped. The trust mechanism can also suppress the negative impact of behavioral uncertainty on alliance performance, and this inhibitory effect will be significant as the behavioral uncertainty increases; but when the behavioral uncertainty is low, the inhibitory effect is not obvious.

5. Conclusion

With the acceleration of the process of internationalization, the increasingly fierce global competition and the unpredictable environment, it is becoming more and more difficult for enterprises to obtain sustainable advantages. As a result, more and more enterprises choose alliance strategies to obtain and maintain their own competitive advantages, but their success rate does not even reach fifty percent.

Through research, this article finds that this is mainly due to the uncertainty of the environment and behavior, which is specifically manifested in the complexity, variability and unpredictability of the environment, and opportunism. But this does not mean that the alliance cannot succeed. The key is how to control the alliance. This paper divides control into contract control and trust control, then analyzes their role in the adjustment of uncertainty and alliance performance, and finds that under certain conditions, the control mechanism can suppress the negative impact of uncertainty on alliance performance. This article believes that the higher the uncertainty of the environment, the better the control effect of the contract. But when the uncertainty of the environment exceeds the control range of the contract mechanism, the inhibitory effect of the contract will not work, which will cause the alliance performance to decline instead of rising; similarly, when the uncertainty of the environment is too low to attract people's attention at this time, the inhibitory function of the contract will not work, and the performance of the alliance will also decline. The inhibitory effect of the trust mechanism is similar but slightly different. Its special feature is that when the uncertainty of the behavior is low, the inhibitory function of the trust mechanism will also play a role, but the inhibitory effect is not obvious.

References


[38] Zhang, J: The mechanism of supplier’s opportunistic behavior on information sharing and operational performance in a dynamic environment (Ph.D., South China University of Technology, China 2011), p.8-74.

[39] Zhang, J. L: Research on the mechanism of opportunistic behavior on supply chain partnership and information sharing (Ph.D., South China University of Technology, China 2013), p.3-11.
